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Approved For Release 2001/03/30 : CIA-RDP72-00337R000300150003-7

Preliminary Draft

FOREIGN SERVICE RETIREMENT SYSTEM
VALUATION AS OF DECEMBER 31, 1967
UPDATED TO JUNE 30, 1970

Prepared by

Office of Debt Analysis
Office of the Secretary
Department of the Treasury

CONTENTS

Introduction

Section 861 of the Foreign Service Retirement Act states, in part: "The Secretary of the Treasury shall prepare the estimates of the annual appropriations required to be made to the Fund, and shall make actuarial valuations of such funds at intervals of five years, or oftener if deemed necessary by him."

Annual appropriations to the Fund ceased in 1950 and were resumed on a matching basis in 1956. The Treasury Department, in addition to providing periodic valuations and interim revisions, has continued to be in a position to provide appropriation estimates and legislation cost estimates for the Foreign Service Retirement System whenever needed.

This valuation as of December 31, 1967 is the first full scale valuation since the valuation of December 31, 1962. It is "full scale" in the sense that new rates of resignation, death, retirement, etc., were developed based on the experience of 1963 through 1967. The rates used in the valuation of 1962 were based on the years 1959 through 1962.

Since this valuation was completed after the close of calendar year 1969 the normal cost distribution and the balance sheet are presented on the basis of the retirement provisions and the estimated active and retired payrolls as of June 30, 1970. The normal cost distribution has been adjusted to reflect the provisions of PL 91-201 as approved February 28, 1970. The balance sheet has also been adjusted to reflect the provisions of PL 91-201 and has been prorated from the active and retired payroll levels of December 31, 1967 to the level of the estimated active and retired payrolls as of June 30, 1970. The active and retired numbers and payrolls for December 31, 1967, December 31, 1969, and June 30, 1970 are as follows:

	Active		Retired	
	Number	Payroll	Number	Payroll
Dec. 31, 1967	4,890	$ 69,590,300	1,651	$11,135,800
Dec. 31, 1969 (preliminary)	5,752	102,651,600	1,951	14,910,900
June 30, 1970 (estimated)	5,365	100,670,700	2,378	21,254,000

Note: Retired numbers do not include all children, but retired payrolls do.

The December 31, 1969 figures are included to show the impressive increase in the retired payroll in the early part of 1970. It is pointed out that the active payroll of $102.7 million was increased by 6% to $108.9 million because of the retroactive pay increase, but was then reduced to $100.7 because of the retirement of about 427 participants in the first half of 1970.

Summary of Benefits and Contributions
under the Foreign Service Retirement Act as of June 30, 1970
(Provisions originating in or affected by PL 91-201 are marked by a *)

ANNUITIES TO MEMBERS—

Immediate annuity:

Voluntary after age 50 and 20 years of paid-up creditable service.
Mandatory at age 60 (with exceptions).
Disability (minimum of 5 years of paid-up creditable service required).
Selection-out, class 1, 2, and 3 only (minimum of 5 years of paid-up creditable service required.

Deferred annuity at age 60 (with exceptions):

Minimum of 5 years of paid-up creditable service required.

Formula for annuities to members:

Full annuity - (2%) x (high 3-year average salary) x (years of paid-up creditable service).
Disability annuity based on minimum of 20 years service (not to exceed service which could have been earned before reaching mandatory retirement age). Minimum of 5 years of paid-up creditable service required.
Annual deduction for survivor election given under "annuities to survivors" below.

Creditable service (limited to 35 years except for sick leave credit):

In addition to normal service under the system:

(a) 50% additional credit for service at unhealthful posts (in lieu of post differential under 5 U.S.C. 592.5).
(b) Credit under Civil Service or other Federal retirement systems (if proper employee contributions have been transferred in).
(c) All military service (no employee contribution required).
*(d) Credit for unused sick leave (not affected by 35-year limit).

ANNUITIES TO SURVIVORS—

Annuities to surviving widows and children:

All qualified widows and children of deceased active or retired participants receive annuities unless:

*(a) the participant died in active service with less than 18 months of creditable service,
(b) the participant was separated and died while awaiting deferred annuity (death while awaiting deferred annuity in the case of selection-out in class 4 or 5 is treated as death in service).

Annuities to surviving husband:

*In case a female participant dies after 18 months of service or while awaiting deferred annuity under selection-out in class 4 or 5, her husband is eligible for annuity only if he is a dependent widower.

If a female participant dies after retirement her husband receives an annuity only if she has elected such an annuity for him.

Annuities to special beneficiaries:

An unmarried participant may provide a survivor annuity to a designated beneficiary provided the participant shall have passed a physical examination. (See Section 821(f).)

Formula for annuities to survivors:

Except as noted otherwise, the elected annuity payable to a surviving spouse shall be half of the portion of the participant's annuity designated as the base, (that is, 50% or less of the annuity to which the participant was or would have been entitled). In case of death in service, a widow or dependent widower is entitled to a minimum of 50% of the participant's annuity based on at least 20 years of service (provided this much service could have been earned before mandatory retirement age). Male annuitants are required to elect a minimum survivor annuity of $2400 for their wives.

The reduction in the electing participant's annuity is 2½% of the first $2,400 of the designated base plus 20% of the excess over $2,400 so designated.

*The annuity for each surviving child with parent is the smaller of $900 or $2,700 divided by the number of children; for each child with no parent the smaller of $1,080 or $3,240 divided by the number of children.

REFUNDS TO MEMBERS –

On resignation:

Refund of participant's contributions with interest at 4% (unless deferred annuity has been elected).

On selection-out (classes 4,5,6, and 7 only):

(a) Gratuity of 1/12 of a year's salary for each year of service, not to exceed 1 year's salary and,
(b) refund of participant's contributions with interest at 4% (unless deferred annuity has been elected).

REFUNDS TO SURVIVORS –

If contributions with interest exceed the total amount returned to a deceased participant or his survivors in the form of annuities, the excess shall be paid to a designated beneficiary or others as specified in Section 841(f).

REQUIRED CONTRIBUTIONS BY PARTICIPANTS—

*Contributions by participant - 7 percent of salary.
Contributions transferred automatically for creditable service under Civil Service.

VOLUNTARY CONTRIBUTIONS BY PARTICIPANTS—

Participant has the option of depositing additional sums at interest to be used at his retirement according to his election under Section 881.

REQUIRED CONTRIBUTIONS BY GOVERNMENT—

*Matching contributions by State Department - 7 percent of salary.
*Interest on unfunded liability, credited annually to Fund by Secretary of the Treasury (10% of such interest in 1971, 20% in 1972, etc.).
*Annuity attributable to military service, credited annually to Fund by Secretary of the Treasury (10% of such annuities in 1971, 20% in 1972, etc.).

AUTHORIZED GOVERNMENT APPROPRIATIONS TO THE FUND—

*For amortizing within 30 years the added unfunded liability caused by:

(a) Liberalization of benefits other than cost-of-living increases to annuitants.
(b) Extension of benefits to new groups of employees.
(c) Increases in salary on which benefits are computed.

COST-OF-LIVING ADJUSTMENTS—

*(a) Effective the first day of the third month which begins after the price index shall have equaled a rise of at least 3 per centum for three consecutive months over the price index for the month last used to establish an increase; each annuity payable from the Fund which has a commencing date not later than such effective date shall be increased by 1 per centum plus the percentum rise in the price index (calculated on the highest level of the price index during the three consecutive months) adjusted to the nearest one-tenth of 1 per centum.

(b) The effect of cost-of-living increases received by the retired participant is passed on to his survivor annuitants.

*(c) The commencing annuity for surviving children shall be increased by the cost-of-living increases which shall have occurred after November 1, 1969. All children's annuities shall be recomputed as if they began on November 1, 1969, except that no reduction shall be made.

Valuation Interest Rate

Because of the late date at which this valuation was completed a valuation interest rate was used which was consistent with current rates. The Social Security valuation as of June 30, 1969 was based on a long term rate of 4-3/4%. In anticipation of a 5% rate in the next Social Security valuation, a rate of 5% was used in this Foreign Service valuation. There is seen no reason for departing in the future from the Social Security rate since both systems use the same rule for investing in new securities and the Secretary of the Treasury, as Chairman of the Board of Trustees for Social Security, approves the Social Security rate. It is hoped that Civil Service and other Federal systems will adopt the same course so that the financial comparison of systems will be facilitated in the future.

Normal Cost

Normal cost can be defined as the total level percentage of an employee's salary required to finance the benefits which he is expected to receive from the system. If such a percentage of salary (regardless of source) were constantly set aside from the time the employee entered the service until the time he was separated from active service, it would accumulate at the valuation interest rate to an amount sufficient to provide his annuity or other benefits to which he or his survivors are entitled. (A part of the total normal cost is provided by employee contributions, transfer of contributions from Civil Service, agency contributions, appropriations, etc. Interest earned by the fund or appropriated interest on the unfunded liability/is not part of the total normal cost.)

Below is given a normal cost distribution as of December 31, 1969 based on an average entry age of 34.8 and a valuation rate of 5%. The first column shows the normal cost based on benefits resulting from service under the Foreign Service retirement system only. The second column shows the normal cost based on benefits resulting from service under Civil Service and military only. The third column shows the total normal cost.

The lower part of the table shows the source of the normal cost. The item, "Transfer of member contributions from Civil Service" requires explanation. The figure of 2.28% means that the lump sum transfer of contributions is equivalent to 2.28% of the employee's future salary. In other words, this much of the total normal cost is provided by a lump sum transfer whereas the two 7% contribution items come in as a steady percentage of future payroll as does also the military contribution and (presumably, for this purpose) the residual normal cost. It is noted that only one tenth of the military contribution and the transfer of funds from Civil Service are shown in the non-Foreign Service column since they are an offset to the cost of benefits earned because of service in the Civil Service and the military.

As a part of this valuation a determination of the normal cost was made on the assumption of an annual increase in salaries of $3\frac{1}{2}\%$ and an annual increase in the cost-of-living index of $1\frac{1}{2}\%$. On these assumptions it was found that the normal cost is about $1\frac{1}{2}$ times what it is on a static basis. Instead of 31.22% it would be about 47% on the dynamic assumptions.

Normal Cost
Foreign Service Retirement System
Valuation at 5% as of December 31, 1967, adjusted to June 30, 1970

Type of benefit	For service credit earned under the F.S. System	For service credit earned under C.S. and military	Total
	(percentage of salary)		
Benefits to members:			
Service annuities 1/	14.66%	9.58%	24.24%
Disability annuities	1.16	1.23	2.39
Deferred annuities	.34	.40	.74
Refunds on resignation 2/	.46	.19	.65
Total member benefits	16.62%	11.40%	28.02%
Benefits to survivors:			
Annuities because of death after service retirement 3/	1.42%	.85%	2.27%
Annuities because of death after disability retirement	.13	.14	.27
Annuities because of death in service	.31	.24	.55
Childrens' annuities	.04	.02	.06
Refunds because of death in service 4/	.03	.02	.05
Total survivor benefits	1.93%	1.27%	3.20%
Total normal cost (member and survivor benefits)	18.55%	12.67%	31.22%
Mandatory contributions from members	7.00%	-	7.00%
Matching contributions by agency	7.00	-	7.00
Transfer of member contributions from Civil Service	-	2.28%	2.28
Government contribution for military service	-	1.50*	1.50*
Residual normal cost to Government	4.55	8.89	13.44
Total percentage required	18.55%	12.67%	31.22%

1/ Includes all immediate annuities except disability.
2/ Includes selection-out payments.
3/ Includes annuities to survivors of deferred annuity electors.
4/ Includes refunds because of death awaiting deferred annuity.

*10% of 1.50% in fiscal 1971, 20% of 1.50% in fiscal 1972, etc.

Comparison of Normal Cost with 1962 Normal Cost

The total normal cost from the 1967 valuation, after updating for the benefit improvements in PL 91-201, is 31.22% using a valuation interest rate of 5%. The total normal cost from the valuation of 1962 was 29.05% based on a valuation interest rate of 4%. Based on a 5% interest rate the normal cost for 1962 would have been about 24%. Thus there is roughly a 7 percentage point difference between the two.

The most significant cause for increased normal cost in this valuation compared with the 1962 valuation is the change in the assumed new entrant "mix", that is the percentage distribution of new entrants by entry age groups, illustrated below:

	Group I (Entries under age 30)	Group II (Entries, ages 30 through 40)	Group III (Entries over age 40)
	(Average entry age shown in parentheses.)		
1962 valuation	63%(age 25)	24%(age 34)	13%(age 46)
1967 valuation	38%(age 25½)	34%(age 35½)	28%(age 46½)

The 1962 new entrant mix results in an overall average entry age of 30 compared to an overall average age of 35 for the 1967 valuation. This causes a sizeable increase in normal cost.

The benefit improvements in PL 91-201 account for about two percentage points of increase. Other factors in the increased normal cost are an improvement in retired mortality and a decrease in the average retirement age from about 56½ to 55½.

It is pointed out that PL 91-201 provides an offsetting 1 percentage point increase in combined employee and agency contributions. It also provides for a contribution to cover military service credit which will be equivalent to about 1.5 percentage points after 10 years (10% in the first year, 20% in the second, etc.).

Comparison with Civil Service System Normal Cost

Currently the Civil Service normal cost is estimated at about 14% of payroll, based on a valuation rate of 3½%. If a valuation rate of 3½% were used on the Foreign Service normal cost shown above it would increase from 18.55% to roughly 25%. The question is always present why the rate under Foreign Service is so much higher than under Civil Service. The reasons are listed as follows:

1. The average entry age of about 35 years for Foreign Service is much higher than the average entry age for Civil Service, which is in the vicinity of 27 years. This is caused partly by the fact that staff personnel must serve for 10 years under the Civil Service system before coming under the Foreign Service system. A higher entry age results in higher normal cost.

2. The average retirement age under Foreign Service is approximately $55\frac{1}{2}$ years. Under Civil Service it is about $60\frac{1}{2}$ years. A lower retirement age contributes directly to higher normal cost.

3. The resignation or turnover rate is much lower under Foreign Service. The percentage of new entrants into Foreign Service who stay until retirement ranges from about 50% for entrants at age 25 to 85% for entrants at age 45. Under Civil Service only about 16% of the new entrant males at age 27 are still in service at age 55 and only 4% of the new entrant females are still in service at age 55. Because of this, the ratio of benefits to salary earned is much greater under Foreign Service. This relation translates to normal cost, which is the ratio of the present value of benefits for a new entrant divided by the present value of his future salary.

4. The salary scale under Foreign Service is much steeper than under Civil Service. Since annuities are based on the final 3-year average, the ratio of benefits to contributions is increased by a steeper salary scale. Under Foreign Service, a cross-section of salaries for participants of all ages who entered at age 25 shows that the average salary at age 55 is 3.4 times the salary at age 25. The Civil Service salary scale shows a ratio of only 1.6 for males and 1.5 for females.

5. The formula for computing annuities under Foreign Service is based on a flat 2% per year of service, whereas under Civil Service less credit is given for the first 10 years. Under Foreign Service 50% additional credit for service at unhealthful posts can be earned. Also selection-out benefits in the form of immediate annuities and gratuities add to the cost of the Foreign Service system.

Balance Sheet as of December 31, 1969

As explained in the introduction the balance sheet shown below is as of December 31, 1967 prorated to the estimated level of the June 30, 1970 payroll and adjusted for the legislative changes in PL 91-201 approved February 28, 1970.

The first column shows the liabilities and assets based on benefits resulting from service under the Foreign Service retirement system only. The second column shows the liabilities and assets based on benefits resulting from service under Civil Service and military only. The retired roll portion of the liabilities is shown in parentheses. This represents the estimated liability with respect to all retired members and survivors on the roll as of June 30, 1970.

It is noted that the split between Foreign Service and Non-Foreign Service is on the same basis as reflected in the normal cost table. Actually, the retired roll liabilities could be divided on a more refined basis, and will be in future studies.

The balance sheet figures have been obtained by first projecting (year by year) each of the various benefits and receipts using the rates and probabilities based on the experience of 1963 through 1967. These projections are for only the estimated active and retired forces as of June 30, 1970 and do not include new entrants beyond that date. The projections are then discounted at 5% to obtain present values. The present value of a series of benefits can be defined as the amount of money which would have to be invested in a fund at a given rate of interest (in this case 5%) to provide the series of benefits year after year until the benefit has been paid, at which time the theoretical fund for the benefits would have become exhausted.

Obtaining the present value of future residual normal premiums, even though these normal premiums may or may not be expected to be received, provides a means of obtaining the net accrued liability, part of which is made up by the fund and the remainder by the unfunded liability.

The net accrued liability by this method is slightly different from the pure past service liability as it is generally conceived. The net accrued liability by the normal cost method can be defined as the liability for all benefits expected to be paid to currently active and retired participants less all future total normal premiums (including contributions, etc.) payable with respect to currently active participants and less the existing fund. If the full normal premiums are not met each year the unfunded liability increases. In the same manner, on a pure past service basis, the unfunded past service liability would increase year by year if the accruing increments in past service liability were not met. If a system is being financed by the normal cost method, the accrued liability is the amount that should be on hand if the system is to be fully funded.

There are two principal reasons for using the normal cost method of measuring the accrued liability. (1) It has been used for the principal Government retirement systems for more than 30 years. (2) It provides a common yardstick, in terms of normal cost percentage, for comparing one system with another.

Balance Sheet
Foreign Service Retirement System
Valuation at 5% as of December 31, 1967, adjusted to June 30, 1970

Liabilities and assets with respect to existing force of active and retired members, survivors, and potential survivors (includes no future new entrants).

Type of benefit	For service credit earned under the F.S. System	For service credit earned under C.S. and military	Total
	(present value in thousands)		
Liabilities 1/			
Benefits to members:			
Service annuities 2/	$404,760.1	$264,502.2	$669,262.3
Disability annuities	22,929.1	24,312.6	47,241.7
Deferred annuities	7,077.5	8,326.5	15,404.0
Refunds on resignation 3/	2,322.6	1,504.0	3,826.6
Total member benefits	$437,089.3	$298,645.3	$735,734.6
Benefits to survivors:			
Annuities because of death after service retirement 4/	$ 46,113.2	$ 27,258.9	$ 73,372.1
Annuities because of death after disability retirement	3,609.7	3,887.4	7,497.1
Annuities because of death in service	9,599.7	7,431.9	17,031.6
Childrens' annuities	762.3	381.1	1,143.4
Refunds because of death in service 5/	395.9	263.9	659.8
Total survivor benefits	$ 60,480.8	$ 39,223.2	$ 99,704.0
Total liabilities	$497,570.1	$337,868.5	$835,438.6
(Retired roll portion of liabilities)	($156,107.2)	($106,002.5)	($262,109.7)
Assets			
Funds in hand 6/	$ 41,143.2	$ 10,000.0	$ 51,143.2
Future contributions by members at 7% of future salaries	76,040.6	-	76,040.6
Future matching contributions by agency at 7% of salary	76,040.6	-	76,040.6
Government contribution for military service 7/	-	9,408.8	9,408.8
Residual normal contribution by Gov't. (see Normal Cost table) 8/	49,426.4	96,571.6	145,998.0
Total assets	$242,650.8	$115,980.4	$358,631.2
Excess of liabilities over assets 9/	$254,919.3	$221,888.1	$476,807.4

1/ Liabilities because of both past and future service.
2/ Includes all immediate annuities except disability.
3/ Includes selection-out payments.
4/ Includes annuities to survivors of deferred annuity electors.
5/ Includes refunds because of death awaiting deferred annuity.
6/ Estimated. Estimate of $10,000 for other than Foreign Service is very rough.
7/ Reflects reduced payments during first 10 years.
8/ To determine the unfunded liability it is necessary to assume that the full normal cost will be paid in future years.
9/ Unfunded accrued liability (approximately equal to past service unfunded liability.).

Financing Considerations

Public Law 91-201 increased both the employee and the agency matching contribution rate from $6\frac{1}{2}\%$ to 7%. It also provided that for fiscal year 1971 the Secretary of the Treasury shall credit to the Fund 10% of the interest on the unfunded liability and 10% of the annuities being paid on account of creditable military service. In addition it is estimated that in fiscal year 1971 about $1.4 million of employee contributions will be transferred from the Civil Service fund to the Foreign Service fund by new entrants under the system (provided the assumed number of 432 enter). It is also estimated that roughly $2.5 million will be earned on investments. Based on an estimated payroll of $100.7 million as of June 30, 1970 these receipts are as follows (in millions):

Employee contributions, 7% x $100.7	=	$ 7.0
Agency contributions, 7% x $100.7	=	7.0
Interest on unfunded (by Government), $476.8 x 5% x 10%	=	2.4
Military payment (by Government), $100.7 x 1.5% x 10% . .	=	.2
Transfer in of contributions from Civil Service	=	1.4
Interest on investments, $51.1 x 5%	=	2.6
Total receipts	=	$20.6

The retired payroll is estimated at $21.3 million as of June 30, 1970, which means that receipts will probably be less than expenditures in fiscal year 1971. However, with the Government contribution for interest on the unfunded liability and the payment of annuities attributable to military service both moving from 10% to 20% of their totals in fiscal year 1972, the Fund will probably be increasing again. Earlier projections indicate that without residual normal cost appropriations the Fund would be depleted in about 50 years, more or less. Therefore from a practical standpoint, the appropriation of the residual normal cost may not be considered as a matter of the utmost urgency.

On the other hand, it is pointed out that during the fiscal year 1971 the unfunded liability will increase by the amount of the residual normal cost appropriation, 13.44% of $100.7 million or about $13.5 million, plus the deficiencies in the interest on the unfunded liability and the payments for creditable military service equaling $22.8, making a total increase in unfunded liability of $36.3 million. Apparently it was the intent of the Congress in the recently passed financing legislation for the Foreign Service and the Civil Service Retirement Systems that the unfunded liability should increase by the temporary deficiencies in interest on the unfunded liability and the military payments. However, it is believed that it was not the intent of the Congress that the residual normal cost should go unpaid. The System can absorb a temporary deficiency by increasing the unfunded liability to a higher level, but the Fund will ultimately be depleted if the residual normal cost is ignored indefinitely. The Civil Service Retirement System has no problem in regard to normal cost since the 14% total of employee and agency contributions is adequate to cover its normal cost of approximately 14%.

If the full residual normal cost is appropriated each year it is estimated (on the basis of earlier projections) that the Fund would well exceed $200.0 million before 1980 and would ultimately approach $1.0 billion.

An alternative to requesting the residual normal cost is to obtain legislation providing that the Fund shall never be permitted to decrease. This would be similar to the financing provisions of PL 91-263 approved May 22, 1970 for D.C. Teachers. It would be more generous than the Teachers' legislation in that the Fund would not be pegged at its 1969 level but would be permitted to grow to a maximum level in the vicinity of $200.0 million by the year 2000. At that point appropriations would be required to keep it from decreasing and the financing system would become a pay-as-you-go system with a $200.0 million buffer fund. One objection to this approach is that it shifts the burden of cost to a later generation. The cost burden has already been shifted to the extent that a payment of interest on the unfunded liability amounting to $23.8 million per year is needed indefinitely.

Regardless of what supplemental financing provisions are made, the payment of interest on the unfunded liability and the payment for the portion of the annuity creditable to military service as provided in the present law are directly dependent on the actuarial appraisal of the System. As of the present time the following technical procedures are suggested:

1. So far as possible the valuation interest rate will be the same as the Social Security valuation rate. Since a rate must be determined near the close of the fiscal year and since the Social Security rate is generally not set until a few months later, it will be necessary to anticipate the Social Security rate. In some cases there may be a difference of $\frac{1}{4}$%.

2. It is proposed that a balance sheet, setting forth the unfunded liability, will be prepared as of December 31 of each year. This will provide a mid-fiscal-year unfunded liability figure to which the valuation interest rate can be applied. A computer program is being prepared which will produce a balance sheet and projected receipts and expenditures directly from active and retired roll input. The separation rates, etc., which enter into this computation will be changed at intervals of perhaps 3 or 5 years, or whenever a change is justified. The object is to have a program with which to obtain an up-to-date balance sheet and projected receipts and expenditures from the latest available data with very little delay.

3. The amount of creditable military service for which the Government will pay annuities will be determined from actuarial records for the retired roll. The normal cost figure of 1.50% (about 5% of total creditable service) contained in this report is a preliminary figure based on retirements in 1966 and 1967. Based on the entire retired roll, the percentage of military service may be somewhat different. By June 30, 1970 there is to be maintained a punched card retired payroll on a current basis. It is proposed that for each annuitant the percentage of retired pay attributable to military service be punched on his annuity card. In this manner the total amount of annuity payable because of military credit during a fiscal year can be computed accurately and quickly.